

## ECONOMIC AND OUTCOMES STUDY RESULTS FOR PULMONARY DISORDERS AND INFECTIOUS DISEASE

### COMPLIANCE WITH INHALED CORTICOSTEROIDS AND HOSPITALIZATION FOR ASTHMA

McMahon AD<sup>1</sup>, Lipworth B<sup>2</sup>, Morris AD<sup>1</sup>, Davey P<sup>1</sup>,  
MacDonald TM<sup>1</sup>

<sup>1</sup>Medicines Monitoring Unit (MEMO), University of Dundee,  
Ninewells Hospital & Medical School, Dundee, Scotland;

<sup>2</sup>Department of Clinical Pharmacology, Ninewells Hospital,  
Dundee, Scotland

**BACKGROUND:** Current asthma guidelines advocate early therapy with inhaled corticosteroids to reduce bronchial inflammation. The aim of the present study was to examine the association between compliance with preventive therapy (inhaled corticosteroids, sodium cromoglycate, and nedocromil) and hospitalization for asthma.

**METHODS:** From the Tayside MEMO record-linkage database we identified a cohort of subjects receiving prescriptions for inhaled corticosteroids. Subjects aged 12–45 years, with at least 3 months' exposure during the period August 1992 to December 1994, were included in the study. Compliance was estimated by calculating the maximum number of days for which a subject could have taken an inhaled corticosteroid. In the 3-month exposure window, subjects with 90 days therapy were designated as "compliant," those with 1–89 days were defined to be "partially compliant," and those with zero days were "non-compliant."

**RESULTS:** Of the subjects, 4535 provided calculable compliance, with a total of 88 occurrences of hospitalization for asthma. The proportion of subjects with hospitalization was 9% for compliant subjects, 3% for partially compliant subjects, and 1% for noncompliant subjects. The odd-ratios (ORs) for partial compliance versus compliance were: 0.34 (95% confidence interval [CI] 0.19–0.62) and 0.10 (95% CI 0.05–0.19) for noncompliance versus compliance. The association between compliance and hospitalization disappeared after adjustment for number of doses of beta-agonists and the number of types of medication taken for relief of asthma.

**CONCLUSION:** As the degree of compliance increased, the incidence of hospitalization with asthma also increased. However, this association was probably due to worsening symptoms leading to better compliance with all medications. The results suggest that patients with asthma take their preventive medications more regularly when the condition is worsening.

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## EFFECTIVENESS OF ORAL CIPROFLOXACIN IN THE TREATMENT OF EXACERBATIONS OF CHRONIC AIRWAY DISEASES

LeLorier J<sup>1</sup>, Blais L<sup>1</sup>, Couture J<sup>1</sup>, Bourbeau J<sup>2</sup>

<sup>1</sup>Centre de recherche, Centre hospitalier de l'Université de Montréal, Campus Hôtel-Dieu, Canada; <sup>2</sup>Unité d'épidémiologie respiratoire, Université McGill, Montréal, Canada

**OBJECTIVE:** Oral ciprofloxacin is an antibiotic commonly used for ambulatory treatment of exacerbations of chronic airway diseases (ECAD). However, its clinical superiority over other antibiotics remains to be proven. Randomized clinical trials in which efficacy was measured with bacterial eradication and disappearance of symptoms provided inconclusive results.

**METHODS:** Using the administrative databases of the Quebec Health Insurance Plan, we assessed the effectiveness of oral ciprofloxacin in the ambulatory treatment of ECAD among patients aged over 65 years. Within a cohort of 10,820 subjects (mean age 73 years) followed from 1989 to 1996, we performed a case-control analysis to determine whether oral ciprofloxacin prevents hospitalizations for ECAD.

**RESULTS:** During the first 7 days of therapy, 465 cases of hospitalization for ECAD occurred, while 175 cases occurred after the seventh day of therapy. After adjusting for markers of disease severity, we found that users of oral ciprofloxacin were less likely to be hospitalized than users of other antibiotics during the early part of therapy (1–7 days) (rate ratio = 0.6; 95% CI 0.4–1.0). However, after 7 days of therapy we found that users of ciprofloxacin were more likely to be hospitalized for ECAD (rate ratio = 1.7; 95% CI 1.1–3.3).

**CONCLUSION:** Ciprofloxacin was found to be associated with a reduction in hospitalizations for ECAD compared with other antibiotics early in the course of therapy, but with an increase in hospitalizations after 7 days of therapy. The lack of effectiveness in the later part of therapy is likely due, at least in part, to confounding by indication.

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## QUALITY OF LIFE OF ASTHMA PATIENTS RELATIVE TO ASTHMA SEVERITY

Greiner W, Schulenburg Graf von JM

Center for Health Economics and Health System Research,  
University of Hannover, Germany

**OBJECTIVE:** Concepts of quality of life are gaining increasing significance as measures of outcome, both in medicine as well as in economics. Therefore—particularly for chronic illnesses such as asthma—instruments are necessary which make the influence of the illness on the daily life of the patients measurable from a subjective point of view. One such questionnaire is the Fragebogen zur Asthmaqualität (FLA), a disease-specific instrument for measuring the quality of life of asthma patients. This ques-

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